

## ABSTRACT

An artificial lipid bilayer membrane formation device (1) of the present invention includes: an upper solution chamber (first solution chamber)(11) and a lower solution chamber (second solution chamber)(12) both of which are filled with aqueous solution (13); and a partition wall (15) disposed between the upper solution chamber (11) and the lower solution chamber (12) so as to part the upper and lower solution chambers from each other. The partition wall (15) has an opening (16), and a first lipid solution is applied to a portion around the opening, thereby forming an artificial lipid bilayer membrane on the opening (16). Further, in the formation device (1), a tubule (17) for lipid substitution is attached to the partition wall (15) so as to be positioned on a bulk phase of the artificial lipid bilayer membrane. A second lipid solution is added via the tubule (17), thereby forming an artificial lipid bilayer membrane whose lipid composition is changed.